This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 – 8. (canceled).

9. (currently amended) A method of performing failure analysis upon a multi-layer semiconductor device, comprising the steps of:

exciting a gain medium containing molecular fluorine and disposed in a resonant cavity to generate an output beam having a first component with a wavelength around 157 nm, and having a second component with a wavelength around 718 nm;

~~and~~ directing the first component of the output beam onto a multi-layer semiconductor device to selectively etch away a first material therefrom;

directing the second component of the output beam onto the multi-layer semiconductor device to treat a second material of the multi-layer device without etching the first material;

shaping the beam into a pattern using a mask;

imaging the shaped beam onto the semiconductor device; and

viewing the etching of the first material using a camera aligned co-linearly with a final trajectory of the output beam.

Claims 10 – 18. (canceled).

Claims 19 – 26. (canceled)

27. (currently amended) A method of performing failure analysis upon a multi-layer semiconductor device, the method comprising the steps of:

exciting a gain medium containing molecular fluorine and disposed in a resonant cavity to generate an output beam having a first component with a wavelength around 157 nm and having a second component with a wavelength around 718 nm;

directing the output beam onto a multi-layer semiconductor device that includes integrated circuitry covered by a passivation layer, wherein a portion of the passivation layer is etched away by the first component of the output beam to expose the integrated circuitry, and the second component of the output beam is directed onto the multi-layer semiconductor device to provide at least one of the functions, selected from the following group functions: providing a visible light used for alignment of the output beam, and treating layers under the passivation layer without destroying the passivation layer;

shaping the beam into a pattern using a mask;

imaging the shaped beam onto the semiconductor device;

viewing the etching of the material using a camera aligned co-linearly with a final trajectory of the output beam.

Claims 28 – 34. (canceled).

35. (currently amended) A method of etching a passivation layer formed on a semiconductor substrate using a beam of radiation having a wavelength of around 157 nm, and having a wavelength of around 718 nm, where the beam is generated from a molecular fluorine laser ~~comprising~~, the method including ~~the steps of~~:

directing the beam of [[157 nm]] radiation towards the passivation layer;

selectively removing a portion of the passivation layer using the directed beam;

shaping the beam into a pattern using a mask, wherein the directing step includes imaging the shaped beam onto the semiconductor device, and wherein energy of the beam at a wavelength of around 157 nm operates to remove the portion of the passivation layer, and wherein energy of the beam at the wavelength of around 718 nm operates to treat a material disposed under the passivation layer without damaging the passivation layer; and

viewing the removal of the passivation layer using a camera aligned co-linearly with a final trajectory of the beam.